



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/566,655 Confirmation No. 7530  
Applicant : Shingo TODE et al.  
Filed : February 1, 2006  
TC/A.U. : 1795  
Examiner : Karie O. Apicella  
Dkt. No. : MAM-074  
Cust. No. : 20374

**DECLARATION OF PRIOR INVENTION IN WTO MEMBER COUNTRY  
TO OVERCOME CITED PUBLICATION (37 C.F.R. § 1.131)**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

We, Shingo TODE, Akira KINOSHITA, Hiroyuki FUJIMOTO, Yasufumi TAKAHASHI, Ikuro NAKANE and Shin FUJITANI, declare and state THAT:

1. We are the inventors of the nonaqueous electrolyte secondary battery defined in claims 1-3, 7 and 11 of the subject application.
2. The nonaqueous electrolyte secondary battery defined in claims 1-3, 7 and 11 was reduced to practice in Japan prior to the July 30, 2003, filing date of Ohzuku et al., US 2004/0126660 A1 ("Ohzuku"), and after January 1, 1996.
3. To establish that the nonaqueous electrolyte secondary battery defined in claims 1-3, 7 and 11 was reduced to practice in

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Japan prior to July 30, 2003, the following documents, in which all dates have been redacted, are submitted herewith together with English translations as evidence:

Exhibit A: Request for New Domestic Applications dated prior to July 30, 2003,

Exhibit B: Memorandum of idea dated prior to July 30, 2003, which was attached to the above Request, and

Exhibit C: Draft specification which was also attached to the above Request.

4. The examples in the draft specification describe tests carried out by us or under our supervision.

5. Example 1 describes a three-electrode beaker cell (corresponding to a nonaqueous electrolyte secondary battery) in which the positive electrode material is a positive active material which includes a lithium transition metal complex oxide represented by the formula  $\text{LiMn}_{0.33}\text{Ni}_{0.33}\text{Co}_{0.34}\text{O}_2$ , and further includes zirconium in an amount by mole of 0.5 %, based on the total amount of the transition metals<sup>1</sup>. The battery was charged until the potential of the working

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<sup>1</sup>Example 1 of the draft specification states that "zirconium (IV) oxide was added so that a ratio in mole of zirconium to the obtained main active material  $\text{LiMn}_{0.33}\text{Ni}_{0.33}\text{Co}_{0.34}\text{O}_2$  was brought to 0.5 %." A ratio in mole of zirconium to the obtained main active material is equal to a ratio in mole of zirconium to the total amount of the transition metals.

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(positive) electrode reached 4.3 V vs. Li/Li<sup>+</sup>.

6. Example 2 describes a battery having the same construction as the battery in Example 1 except that the amount of zirconium of the positive electrode material by mole was 1.0 %.

7. Example 3 describes a battery having the same construction as the battery in Example 1. The charge potential of the working (positive) electrode was 4.6 V vs. Li/Li<sup>+</sup>.

8. Example 4 describes a battery having the same construction as the battery in Example 2. The charge potential of the working (positive) electrode was 4.6 V vs. Li/Li<sup>+</sup>.

9. Example 5 describes a nonaqueous electrolyte secondary battery in which the positive electrode material is a positive active material as prepared in Example 2 and which includes a lithium transition metal complex oxide represented by the formula LiMn<sub>0.33</sub>Ni<sub>0.33</sub>Co<sub>0.34</sub>O<sub>2</sub>, and further includes zirconium in an amount by mole of 1.0 %, based on the total amount of said transition metals. The negative electrode contains a graphite material. The charge voltage was 4.5 V.

10. Fig. 4 of the draft specification is a graph showing the 2<sup>nd</sup>-cycle and 16<sup>th</sup>-cycle charge/discharge curves for the batteries of Example 3 and Comparative Example 2 at an end of charge potential of 4.6 V vs. Li/Li<sup>+</sup> and corresponds to the figure in the memorandum of idea.

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All statements made herein of our own knowledge are true and all statements made on information and belief are believed to be true; and that further these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent resulting therefrom.

Signed this 3rd day of September, 2010.

Signed: Shingo Tode

Name: Shingo TODE

Signed this 3rd day of September, 2010.

Signed: Akira Kinoshita

Name: Akira KINOSHITA

Signed this 3rd day of September, 2010.

Signed: Hiroyuki Fujimoto

Name: Hiroyuki FUJIMOTO

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Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

Signed: \_\_\_\_\_

Name: Yasufumi TAKAHASHI

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

Signed: \_\_\_\_\_

Name: Ikuro NAKANE

Signed this \_\_\_\_\_ day of \_\_\_\_\_, 2010.

Signed: \_\_\_\_\_

Name: Shin FUJITANI